STANDARD FORM NO. 64

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# Office Memorandum • UNITED STATES GOVERNMENT

TO : The Files

DATE: 5 March 1957

FROM : [redacted]

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SUBJECT: A Cursory Evaluation of the (CV-1) Transistorized Frequency Converter

1. Following a request by the Design Section, a cursory evaluation of the transistorized converter was made.

2. The CV-1 is a miniature transistorized radio frequency converter. It is intended for use in conjunction with a standard broadcast radio receiver to enable the operator to receive signals in the frequency range of 3.0 to 6.0 megacycles.

3. The following comments are based upon the examination of the device:

(a) The frequency coverage was verified as 3.0 to 6.0 megacycles. The output frequency of the unit was found to be peaked at approximately 1500 kilocycles.

(b) For comparison purposes the 10 db S/N "apparent" sensitivity was checked on both the broadcast receiver and receiver-converter. The 10 db S/N sensitivity of the receiver alone was found to be approximately 150 microvolts. The 10 db S/N sensitivity of the receiver-converter was found to be approximately 1.5 microvolts. This indicates that the converter improves the over-all sensitivity by a factor of 100. The nominal power output of the receiver was 100 milliwatts for determination of the sensitivity.

(c) No spurious frequencies were noted when the search was made with a Stoddart NM-20B field intensity meter. But, when the converter was used in conjunction with the portable receiver, spurious signals were noted. These spurious signals occur when the harmonic of the receiver hfo beats with the converter crystal frequency to produce an audible output on the receiver.

(d) The simplicity of operation of this device makes it very useful for the purpose for which it is intended.

(e) The converter construction and fabrication was found to be satisfactory.

(f) The accompanying operating instructions were found to be adequate.



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